

Notice of Allowability

Application No.

09/832,799

Examiner

Jamal A Fox

Applicant(s)

WU ET AL.

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/12/2001.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☒ The drawings filed on 12 April 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/12/01 & 10/30/01
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 11/02/2004
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Allowable Subject Matter

1. Claims 1-21 are allowed.
2. The following is an examiner's statement of reasons for allowance: Regarding claims 1-21, the prior art of record fails to teach of an RF upconverter for upconverting the signal to a broadcaster's RF frequency for transmission and a method for interleaving subcarriers of a plurality of different bit streams in frequency domain comprising the step of frequency interleaving the parallel OFDM sub-carriers of each bit-stream with the parallel OFDM sub-carriers of the other bit streams of the plurality of different bit streams such that the parallel OFDM sub-carriers of each bit-stream are spread over an entire available frequency spectrum.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

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Authorization for this examiner's amendment was given in a telephone interview with Gordon Freeman on 11/11/2004.

Abstract of the Disclosure, line 5, after "The", "present" has been deleted.

Abstract of the Disclosure, line 15, after "The", "method and system according to the", has been deleted.

Abstract of the Disclosure, line 17, after "channel", "." has been inserted.

Abstract of the Disclosure, line 17, after "channel.", " allowing, for example, simultaneous transmission of digital TV for fixed and mobile recipients. Frequency interleaving of the OFDM sub-carriers of each of the multiple bit streams over the entire spectrum of a RF channel substantially reduces the risk that a signal is notched out by multipath distortion or fading." has been deleted.

A clean version of the Abstract of the Disclosure is below:

Abstract of the Disclosure

The invention relates to a method and system for tiered digital broadcasting. A plurality of different bit streams representing digital data targeted for different services is received from a data source. Each bit-stream of the plurality of different bit-streams is modulated on a plurality of OFDM sub-carriers. Sub-carriers of different bit streams have different spectral efficiency. The parallel OFDM sub-carriers of each bit-stream are frequency interleaved with the parallel OFDM sub-carriers of the other bit streams of the plurality of different bit streams such that the parallel OFDM sub-carriers of each bit are spread over an entire available frequency spectrum. The interleaved sub-carriers are transformed into time domain for providing a frequency interleaved OFDM signal. The OFDM signal is then upconverted to the frequency of a broadcasting channel and transmitted. The invention enables a broadcasting station to transmit multiple bit streams with different spectral efficiency using one RF channel.

Conclusion

4. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 305-3988, (for formal communications intended for entry)

Or:

(703) 305-3988 (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121
Crystal Drive, Arlington, VA. 22202, Sixth Floor (Receptionist).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jamal A. Fox whose telephone number is (571) 272-3143. The examiner can normally be reached on Monday-Friday 6:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9315 for After Final communications.

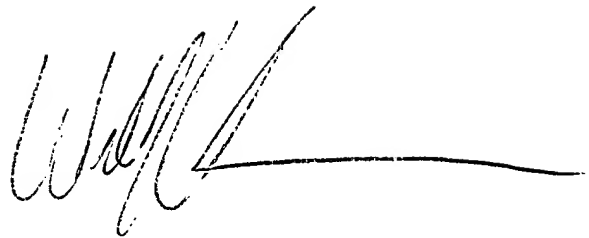
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

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Jamal A. Fox
Jamal A. Fox

A handwritten signature in black ink, consisting of stylized, overlapping loops and a long horizontal line extending to the right.